Installation/Operating Instructions

SL & SLX Scissor Lift Video Projector Lift by Draper

Caution:

① Read instructions completely before proceeding.
② Perform Pre-Installation Testing Procedures (page 2) before beginning to install unit.
③ Follow instructions carefully. Installation contrary to instructions invalidates warranty.
④ Do not obstruct operation of Scissor Lift with fingers or any object. Serious injury or damage could result.
⑤ Scissor Lift is designed to accommodate ceiling suspended equipment. Equipment should not be allowed to rest on optional ceiling closure during operation. (Refer to section titled "Installing Projector.")
⑥ Entire bottom of unit must be unobstructed to permit proper operation. Sufficient clearance must be allowed below projector or optional ceiling closure: 4' for Model SL4, 5' for Model SL5, etc.; 11' for Model SLX11, 12' for Model SLX12, etc.
⑦ Unit must be installed level (use a carpenter's level).
⑧ Unit operates on 110v AC 60 Hz. current.

Note: *Unit has been thoroughly inspected and tested at factory and found to be operating properly prior to shipment.*

Planning

① Based on screen location and projector specifications, determine proper position for projector installation.
② Confirm that there is adequate space for installation and operation. Minimum clearance above ceiling level varies according to Scissor Lift model, plus height of projector, optional mounting bracket, optional ceiling closure, and optional plenum rated housing.
③ Arrange to provide service access to the unit.

As Soon As Scissor Lift Arrives

① Open carton and inspect for damage.
② Locate the following parts:
A. The unit itself
B. Controls
C. Any optional equipment
③ Do the Pre-Installation Testing Procedure (see page 2).

Pre-Installation Testing Instructions

This Scissor Lift was extensively tested and in perfect condition when it left our plant. To make sure that it arrived in the same condition, please use the following procedure to test the unit prior to installation.
Draper does not accept back charges for labor. Make sure that this unit is operating satisfactorily before installation.
Danger! The scissor mechanisms can exert over 350 pounds of force. Do not insert any body parts or other objects into this unit while power is connected.

① Remove the unit from the outer carton.
② Temporarily suspend the unit in order to proceed with pre-installation instructions.
③ You will find an operating switch that can be temporarily connected to switch wires by use of a telephone type connector.
③ Also, you will find a temporary power plug connected to this unit.
④ Make sure that the switch is in the off position and plug the unit into a 110v AC source. Caution: Do not touch any exposed wires while the unit is plugged in.
⑤ Use the switch to move the bottom pan down. The pan will automatically stop when it reaches the "show" position. Remove packing inserts.
⑦ Cycle the unit in both directions until you are satisfied the unit is operating properly. If for any reason the unit does not seem to operate properly, call Draper, 765-987-7999. ***Do not proceed with installation.***
⑧ If the unit has been ordered with the remote control option, again verify operation of the unit by use of the hand held transmitter. If for any reason the unit does not seem to operate properly, call Draper, 765-987-7999. ***Do not proceed with installation.***
⑨ If the unit is operating satisfactorily, remove and discard the temporary plug. ***KEEP THE SWITCH!***
⑩ Proceed with the installation, referring to instructions supplied.

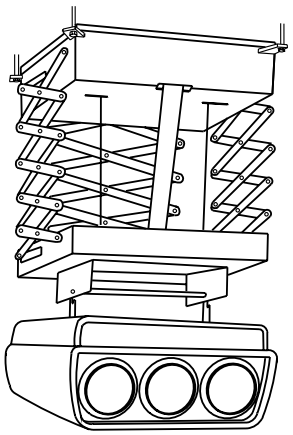
Hanging Unit

The Scissor Lift may be installed in a variety of ways; recessed above the ceiling, or suspended below the ceiling. The lift is supported by four ½" threaded mounting rods. If ceiling recessed, the entire unit (including the projector) should set approximately 1½" above the finished ceiling in its "stored" position. The threaded rods should pass through the corner mounting flanges and be secured by nuts above and below. Use a thread locking compound such as Loc Tite #242 (provided). The unit should then be guy wired or blocked to prevent swinging.
All installations should observe the following guidelines:

① Installer must ensure that all fasteners and supports are of adequate strength to securely support Scissor Lift and projector.
② Fastening methods must be suitable for mounting surface, and securely anchored so that vibration or abusive pulling on unit will not weaken installation.
③ Unit should be level, with weight shared more or less equally by all four threaded mounting rods.
④ Bottom of unit must be unobstructed after installation. Sufficient clearance must be allowed below projector or optional ceiling closure: 4' for Model SL4, 5' for Model SL5, etc.; 11' for Model SLX11, 12' for Model SLX12, etc.
⑤ Access from above the unit, with enough clearance to remove the top cover, should be provided in case service is required.
⑥ Do not use unit to support adjacent ceiling, light fixtures, etc.
⑦ Do not complete the ceiling below unit until electrical connections have been completed and unit has been operated successfully.
⑧ We recommend that safety cables be attached to the Scissor Lift for added security (a sound installation practice with overhead equipment).

Electrical Connections

Unit operates on 110v AC, 60 Hz. current.
Removing the top cover of the unit and opening the electrical box exposes terminals for field connections. Unit is shipped with internal wiring complete and control switch (es) pre-wired for Pre-Installation Testing Procedure. Wire to connect unit to power supply should be furnished by installer. Connections should be made in accordance with wiring diagram, and wiring should comply with national and local electrical codes. All operating switches should be "off" before power is connected.
Scissor Lift should be operated and checked prior to installing projector and/or optional ceiling closure.



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Operation

When unit is first operated, be cautious! If unit fails to operate when the toggle switch is flipped "down", return switch to "off" and recheck electrical connections before proceeding. Cycle unit down and up several times to confirm satisfactory operation.

Standard Single Station Control—One, 12 volt toggle switch: moving 3-position toggle switch to "down" position will start lift down. Moving toggle switch to "up" will start lift up. When lift is in "show" position, travel will automatically be stopped by factory set limit switches. Whenever switch is placed in center "off" position, operation will stop. One, 12 volt key switch will lower lift from "show" to "service" position.

Video Interface Control—This optional 12 volt control device allows the Scissor Lift switch to control the operation of a Draper motorized projection screen via a relay.

Multiple Station Control—Optional, moves lift from "stored" to "show" positions only. Each switching station has a three-button switch with "up", "down", and "off" buttons. Lift starts up or down when appropriate button is pressed, and may be stopped by pressing "off" button. Factory set limit switches stop lift automatically when projector is in "show" position.

Key Operated Switch—If ordered, a single station, key-operated three position (up/off/down) switch is available. Multiple Station Control required for this option. Moves lift from "stored" to "show" positions only.

Infrared or Radio Frequency Remote Control—If ordered, a three-button transmitter is provided, with "up", "down", and "stop" buttons. Unit starts up or down when appropriate button is pressed, and may be stopped by pressing "off" button. Factory set limit switches stop unit automatically when projector is in "show" position. Multiple Station Control required for this option.

Installing Optional Ceiling Closure

Your Scissor Lift can be equipped with an optional ceiling closure system. To install it:

① Remove closure and all mounting hardware from carton.

② The optional ceiling closure can be mounted in either of the following styles:

A. If ceiling tile is to be inserted in the closure, this may be done now, or later when the rest of the ceiling is installed (permitting a better match). Cut tile so that its overall dimensions are the same as (or slightly less than) the closure panel. Attach to the closure panel with mastic.

B. Position one pre-cut aluminum tee along outside edge of panel so arm extends under and rests on the panel (or tile if tile is being used). Be careful not to compress the tile. Drill three holes through rib of tee into edge of panel and pop rivet into place.

C. Follow same procedure with remaining 3 tees.

NOTE: Since tees comprise part of exposed trim, care should be taken to ensure accurate fit.

③ Attach (2) labeled mounting angles to the corresponding holes in the bottom pan with the supplied hardware.

④ Attach other (2) labeled mounting angles at 90° to previous angles (right to left) in the corresponding holes with the supplied hardware.

⑤ Attach one of four 3/8" threaded rods by passing the rod through one of the four corner holes, in the angles and secure with nuts top and bottom. Approximately ½" of rod should extend above grid.

⑥ Run unit "up" until bottom pan stops at highest position. Mark position on 3/8" rod that is even with ceiling level and cut rod to length (removing it from pan if convenient). Cut remaining three rods to same length.

⑦ Run unit "down" until bottom pan stops at "show" position. Secure all four 3/8" rods to traveling pan in same fashion as first one.

⑧ Attach closure to lower end of each 3/8" rod using two remaining nuts on each rod to firmly clamp fixtures on top of panel.

⑨ Run unit "up" again to highest position. Measure distance by which panel fails to reach required "closed" height for surrounding ceiling.

⑩ Run unit "down" then readjust mounting of 3/8" rods in traveling grid to raise panel required distance.

NOTE: Rods should not extend more than 1" above the angles attached to the pan. Cut extra rod off if necessary.

⑪ Test unit operation to confirm that panel will stop in closed position just before touching ceiling.

Installing Projector

Depending on job conditions and projector, it may be easier to remove optional ceiling closure panel before installing projector.

Generally, the video projector should be suspended from the bottom pan according to projector manufacturer's instructions and using recommended standard ceiling mounting hardware (supplied by others).

The Scissor Lift has a grounded 110v AC, 60Hz power cord for projector power supply. The power cord is laced down the back scissor and is "hot" at all times.

Control cables should be laced through our Cable Management System. This will ensure that cords do not become tangled and damaged during Scissor Lift operation.

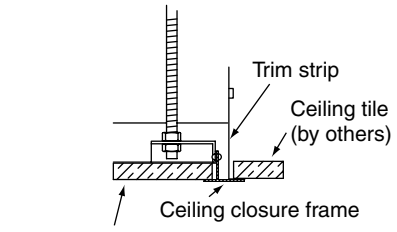
Unit and projection system should be operated, checked and adjusted as necessary at this time.

After testing operations, the optional closure panel should be reattached. Be sure to use Loc Tite, or other thread locking compound on the nuts.

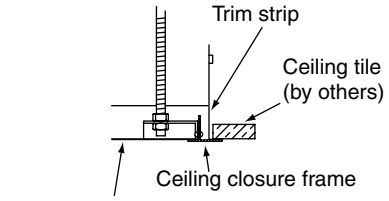
NOTE: Immediately upon completion of the surrounding ceiling, units should be operated to confirm that optional ceiling closure panel stops just short of touching ceiling in closed position.

Warning: Keep fingers and other objects away from automatic ceiling closure and scissor mechanisms when unit is operating. Serious injury or damage could result.

Optional Ceiling Closure for Scissor Lift



Pan Closure



Ceiling Tile Closure

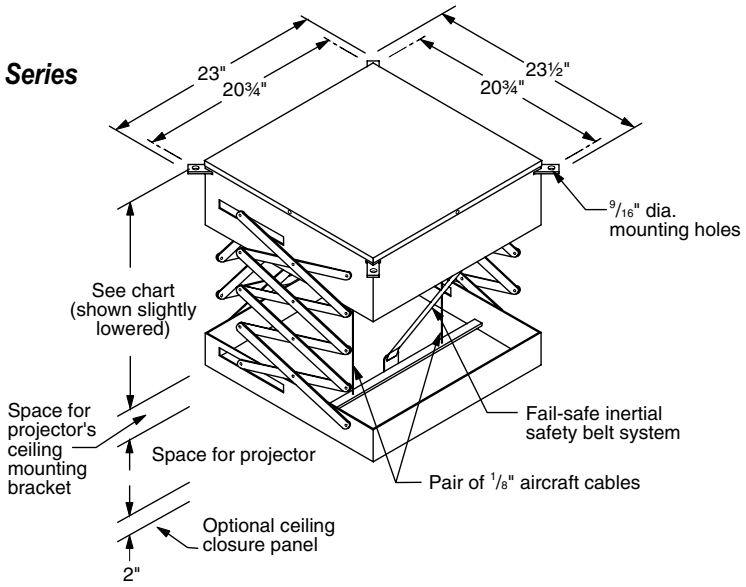
If you encounter any difficulties installing or servicing your Scissor Lift, call your dealer or Draper, Inc. in Spiceland, Indiana, 765-987-7999, or fax 765-987-7142.

Scissor Lift by Draper, Inc.

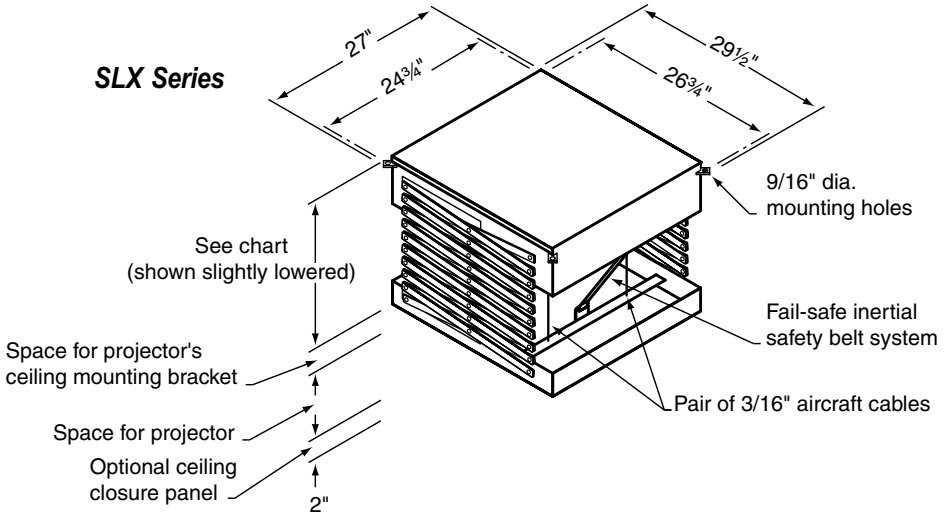
Scissor Lift Dimensions

Model	Maximum Lowering Distance	Retracted Height
SL4	4'	8 1/8"
SL5	5'	9 1/8"
SL6	6'	10 1/8"
SL7	7'	11 1/8"
SL8	8'	12 1/8"
SL9	9'	13 1/8"
SL10	10'	14 1/8"
SLX11	11'	13 3/4"
SLX12	12'	15 3/4"
SLX13	13'	15 3/4"
SLX14	14'	16 3/4"
SLX15	15'	16 3/4"

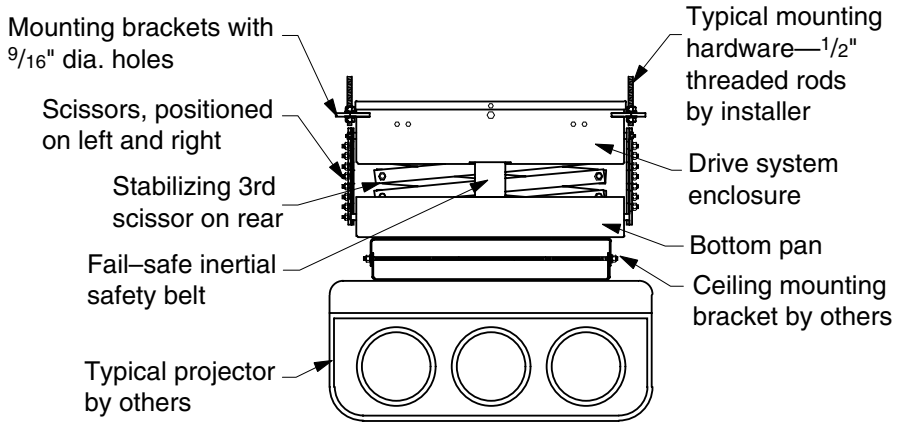
SL Series



SLX Series



Typical Installation Details


Mounting brackets with 9/16" dia. holes
Scissors, positioned on left and right
Stabilizing 3rd scissor on rear
Fail–safe inertial safety belt
Typical projector by others
Typical mounting hardware—1/2" threaded rods by installer
Drive system enclosure
Bottom pan
Ceiling mounting bracket by others

Scissor Lift Wiring Diagram